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Tc99m WCC identifies occult abscess in a polycystic kidney

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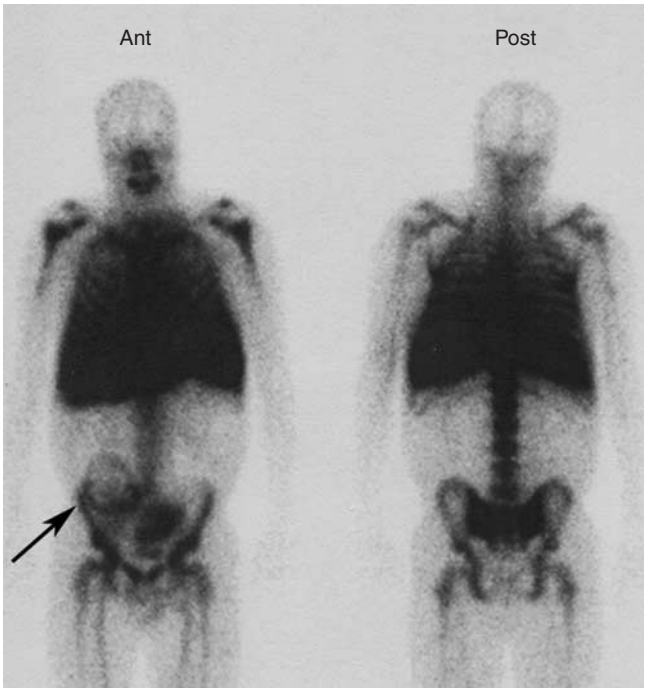

Figure 1 | Tc99m white cell scan images showing anterior (Ant) and posterior (Post) views.

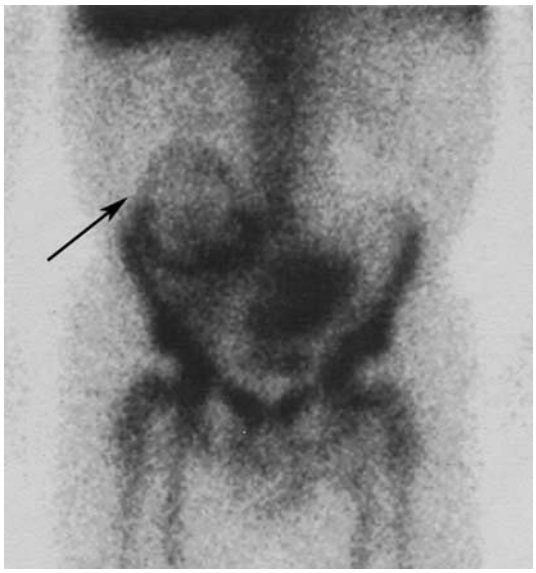

Figure 2 | Zoomed view of anterior Tc99m white cell scan.

A 39-year-old gentleman with end-stage renal failure secondary to autosomal dominant polycystic kidney disease and a failed renal transplant in his left iliac fossa presented with a 3-day history of general malaise and rigors. He denied any urinary tract symptoms. Following failure of his renal transplant, he had commenced hemodialysis via a tunneled hemodialysis catheter 3 months before presentation, complicated by an episode of *Staphylococcus aureus* line sepsis 2 months ago.

On examination, he was pyrexial and minimally tender over his enlarged, left polycystic kidney. He had no stigmata of infective endocarditis. He was treated for presumed recurrent line sepsis with intravenous vancomycin. Subsequently *S. aureus* sensitive to vancomycin was grown in peripheral and line blood cultures. A urine culture reported no growth. Despite intravenous antibiotic treatment for 48 h, he remained febrile, therefore his tunneled hemodialysis catheter, as a source of sepsis, was removed.

His fever failed to settle and further investigations were arranged. An abdominal ultrasound showed bilateral polycystic kidneys with an 8.9 cm cyst within the left kidney, containing debris consistent with previous hemorrhage. An echocardiogram excluded bacterial endocarditis. Clinical examination revealed no local back tenderness making discitis unlikely.

A Tc99m white cell scan (Figures 1 and 2) was performed. This identified an abscess in the right lower abdomen. A repeat abdominal ultrasound confirmed a 10 cm complex cyst in the lower pole of the right polycystic kidney, which was drained under ultrasound guidance and resulted in resolution of the pyrexia. *S. aureus*, an unusual organism for a kidney cyst infection, was grown in cyst fluid.

We hypothesize that a bacteremia, secondary to a tunneled hemodialysis catheter infection, seeded to his polycystic kidneys causing an occult abscess. We emphasize the importance of repeat ultrasound imaging and nuclear medicine studies to identify occult infection, which may have no localizing signs, in polycystic kidneys.